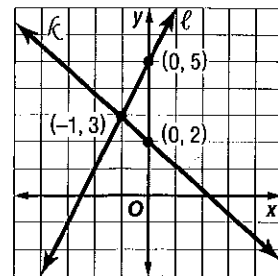


10. ℓ
11. k
12. the line parallel to ℓ that contains $(4, 4)$



INTERNET For Exercises 13–14, use the following information.

Justin's current Internet service provider charges a flat rate of \$39.95 per month for unlimited access. Another provider charges \$4.95 per month for access and \$0.95 for each hour of connection.

13. Write an equation to represent the total monthly cost for each plan.
14. If Justin is online an average of 60 hours per month, should he keep his current plan, or change to the other plan? Explain.

Homework Help

For Exercises	See Examples
15–20, 35, 36	1
21–26	2
27–30, 37–42	3
31–34, 43, 44	4
45–51	5

Extra Practice
See page 759.

Write an equation in slope-intercept form of the line having the given slope and y -intercept.

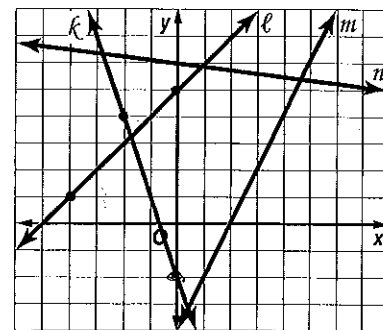
15. $m: \frac{1}{6}$, y -intercept: -4 16. $m: \frac{2}{3}$, $(0, 8)$ 17. $m: \frac{5}{8}$, $(0, -6)$
18. $m: \frac{2}{9}$, y -intercept: $\frac{1}{3}$ 19. $m: -1$, $b: -3$ 20. $m: -\frac{1}{12}$, $b: 1$

Write an equation in point-slope form of the line having the given slope that contains the given point.

21. $m = 2, (3, 1)$ 22. $m = -5, (4, 7)$ 23. $m = -\frac{4}{5}, (-12, -5)$
24. $m = \frac{1}{16}, (3, 11)$ 25. $m = 0.48, (5, 17.12)$ 26. $m = -1.3, (10, 87.5)$

Write an equation in slope-intercept form for each line.

27. ℓ
28. ℓ
29. m
30. n
31. perpendicular to line ℓ , contains $(-1, 6)$
32. parallel to line ℓ , contains $(7, 0)$
33. parallel to line n , contains $(0, 0)$
34. perpendicular to line m , contains $(-3, -3)$

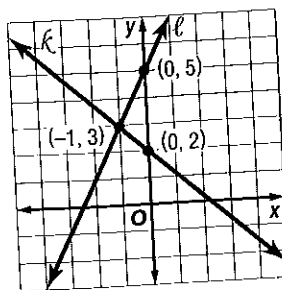


Write an equation in slope-intercept form for the line that satisfies the given conditions.

- $-3x + 5$ 35. $m = -3$, y -intercept = 5
 $-\frac{3}{5}x + 3$ 37. x -intercept = 5, y -intercept = 3
 39. contains $(-5, -3)$ and $(10, -6)$
 41. contains $(-6, 8)$ and $(-6, -4)$
 43. Write an equation of the line that contains $(7, -2)$ and is parallel to $2x - 5y = 8$.
 44. What is an equation of the line that is perpendicular to $2y + 2 = -\frac{7}{4}(x - 7)$ and contains $(-2, -3)$?

Refer to the figure at the right. Write an equation in slope-intercept form for each line.

10. ℓ
11. k
12. the line parallel to ℓ that contains $(4, 4)$



Application **INTERNET** For Exercises 13–14, use the following information.

Justin's current Internet service provider charges a flat rate of \$39.95 per month for unlimited access. Another provider charges \$4.95 per month for access and \$0.95 for each hour of connection.

13. Write an equation to represent the total monthly cost for each plan.
14. If Justin is online an average of 60 hours per month, should he keep his current plan, or change to the other plan? Explain.

Practice and Apply

Homework Help

For Exercises	See Examples
15–20, 35, 36	1
21–26	2
27–30, 37–42	3
31–34, 43, 44	4
45–51	5

Extra Practice
See page 759.

Write an equation in slope-intercept form of the line having the given slope and y -intercept.

15. $m: \frac{1}{6}$, y -intercept: -4
16. $m: \frac{2}{3}$, $(0, 8)$
17. $m: \frac{5}{8}$, $(0, -6)$
18. $m: \frac{2}{9}$, y -intercept: $\frac{1}{3}$
19. $m: -1$, $b: -3$
20. $m: -\frac{1}{12}$, $b: 1$

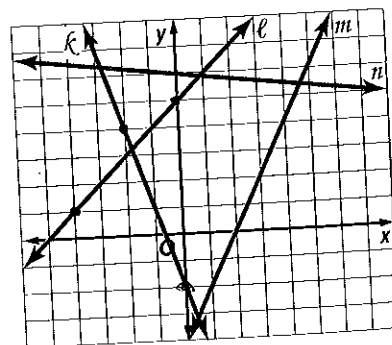
Write an equation in point-slope form of the line having the given slope that contains the given point.

21. $m = 2$, $(3, 1)$
22. $m = -5$, $(4, 7)$
23. $m = -\frac{4}{5}$, $(-12, -5)$
24. $m = \frac{1}{16}$, $(3, 11)$
25. $m = 0.48$, $(5, 17.12)$
26. $m = -1.3$, $(10, 87.5)$

Write an equation in slope-intercept form for each line.

27. k
28. ℓ
29. m
30. n

31. perpendicular to line ℓ , contains $(-1, 6)$
32. parallel to line k , contains $(7, 0)$
33. parallel to line n , contains $(0, 0)$
34. perpendicular to line m , contains $(-3, -3)$



Write an equation in slope-intercept form for the line that satisfies the given conditions.

35. $m = -3$, y -intercept $= 5$
36. $m = 0$, y -intercept $= 6$
37. x -intercept $= 5$, y -intercept $= 3$
38. contains $(4, -1)$ and $(-2, -1)$
39. contains $(-5, -3)$ and $(10, -6)$
40. x -intercept $= 5$, y -intercept $= -1$
41. contains $(-6, 8)$ and $(-6, -4)$
42. contains $(-4, -1)$ and $(-8, -5)$
43. Write an equation of the line that contains $(7, -2)$ and is parallel to $2x - 5y = 8$
44. What is an equation of the line that is perpendicular to $2y + 2 = -\frac{7}{4}(x - 7)$ and contains $(-2, -3)$?

More About...

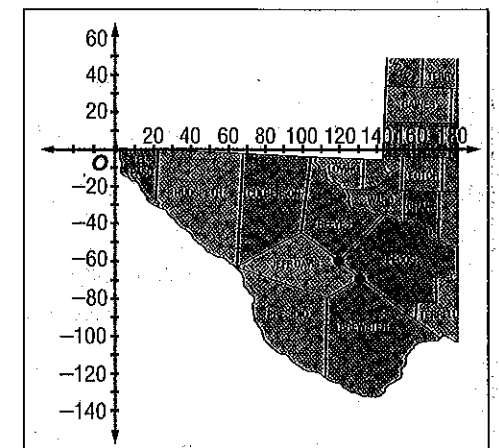


Maps

Global coordinates are usually stated latitude, the angular distance north or south of the equator, and longitude, the angular distance east or west of the prime meridian.
Source: www.worldatlas.com

MAPS For Exercises 50 and 51, use the following information.

Suppose a map of Texas is placed on a coordinate plane with the western tip at the origin. Jeff Davis, Pecos, and Brewster counties meet at $(130, -70)$, and Jeff Davis, Reeves, and Pecos counties meet at $(120, -60)$.



50. Write an equation in slope-intercept form that models the county line between Jeff Davis and Reeves counties.
51. The line separating Reeves and Pecos counties runs perpendicular to the Jeff Davis/Reeves county line. Write an equation in slope-intercept form of the line that contains the Reeves/Pecos county line.
52. **CRITICAL THINKING** The point-slope form of an equation of a line can be rewritten as $y = m(x - x_1) + y_1$. Describe how the graph of $y = m(x - x_1) + y_1$ is related to the graph of $y = mx$.

53. **WRITING IN MATH** Answer the question that was posed at the beginning of the lesson.

How can the equation of a line describe cellular telephone service?

Include the following in your answer:

- an explanation of how the fee for air time affects the equation, and
- a description of how you can use equations to compare various plans.

54. What is the slope of a line perpendicular to the line represented by $2x - 8y = 16$?

- (A) -4 (B) -2 (C) $-\frac{1}{4}$ (D) $\frac{1}{4}$

55. **ALGEBRA** What are all of the values of y for which $y^2 < 1$?

- (A) $y < -1$ (B) $-1 < y < 1$ (C) $y > -1$ (D) $y < 1$

Standardized Test Practice

(A) (B) (C) (D)